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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,148	03/29/2004	Hiroshi Kawazoe	032915-0139	1115
22428	7590	12/21/2005	EXAMINER	
FOLEY AND LARDNER LLP			POPE, DARYL C	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			2632	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/811,148	KAWAZOE ET AL.	
	Examiner	Art Unit	
	DARYL C. POPE	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11, 19-25 and 32-68 is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-15, 26, and 28-31 is/are rejected.
- 7) ☒ Claim(s) 16-18 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/29/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

ART REJECTION:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1,12-13,26, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi(6,014,595).**

-- In considering claims 1, and 12, the claimed subject matter that is met by Kobayashi includes:

1) the rumble strip sensor is met by the vibration sensors(606-618);

2) the adjustable vehicle component is met by the vehicle control(810) and warning unit(808) which creates a loud warning sound to alert a driver(see: column 7, lines 33-38).

-- With regards to claim 13, the visual indicator is met by the visual display to notify the driver(see: column 7, lines 42-45).

-- Claims 26 and 28 recite subject matter that is met as discussed in claim 1 above, as well as:

1) the processor for receiving signal indicative of rumble strip contact, and thereby determining lane deviation is met by the vibration signal analyzer(802, column 6, lines 55 et seq);

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2) the processor initiating a command to automatically steer the vehicle is met by the analyzer sending a signal to the vehicle control unit(810) to steer the vehicle back onto a lane(see: column 7, lines 48-63).

-- With regards to claim 29, the processor utilizing information based on GPS data is met(see: column 8, lines 30-47).

-- With regards to claim 30, the signal being indicative of a type of rumble strip is met by the signal analyzer determining a groove length based on a vibration signal, and looking up a driving situation corresponding to the determined groove length value(see: column 7, lines 3-25).

-- Claim 31 recites subject matter that is met as discussed in claim 26 above, as well as the signal indicative of frequency of contact is met(see: column 6, lines 55 et seq).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Rogers(6,937,165).

-- In considering claims 2-6, and 14-15, although not specifically taught by Kobayashi, use of vehicle components which notify a vehicle operator of pathway deviation, wherein the notification includes vibration is well known in the art. In related art, Rogers

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discloses a virtual rumble strip, wherein deviation from a path is notified to the vehicle operator via tactile vibration(see: column 5, lines 43 et seq).

Since Kobayashi already desires to notify a driver of road deviation via a warning unit or vehicle control that alerts the driver(see: column 7, lines 25-47), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tactile actuator(360) of Rogers into the vehicle control(810) of Kobayashi, since this would have provided a hands on indication means that would have greatly enhanced the notification of road deviation to an operation of the vehicle.

Furthermore, upon implementation of the actuator of Rogers into Kobayashi, it would also have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate any form of electromechanical tactile signal as desired that would have produced the most recognizable tactile signal to an operator upon determination of road deviation.

Allowable Subject Matter

5. Claims 7-11,19-25, and 32-68 are allowed.
6. Claims 16-18, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARYL C. POPE whose telephone number is 571-272-2959. The examiner can normally be reached on M-TH 9:00-7:30.

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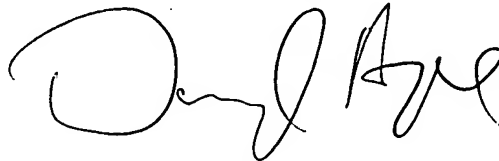
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL J. WU can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daryl C. Pope

Dec. 6, 2005

DARYL C POPE
Primary Examiner
Art Unit 2632

A handwritten signature in black ink, appearing to read "Daryl C. Pope", is written over the printed name and title.